

The First Executive Stakeholder Group Meeting Summary of The Greenhouse Gas Technology Verification Center

**March 24, 1998
Watergate Hotel
Washington, D.C.**

Meeting Overview

The meeting started with welcoming remarks from Stephen Piccot. In his remarks, Mr. Piccot summarized the meeting goals, desired outcomes, and agenda. He proposed a draft Mission Statement for the Center, and introduced several factors which may influence how the Center selects technologies to test (i.e., current lack of GHG regulation, existence of competing verification organizations, GHG technology cost and profit potential). David Kirchgessner also offered welcoming comments, and stressed the importance EPA places on receiving Stakeholder guidance. He expressed hope that the Stakeholders will be advocates for the Center's mission.

After the welcoming remarks, each Stakeholder introduced themselves. Seven Executive Stakeholders were represented at the meeting including: Samuel Baldwin (DOE/NREL), James Kerstetter (Washington State University/Energy Department), Dina Kruger (EPA/OAR), Alan Miller (World Bank/GEF), Michael Terraso (Enron Gas Pipeline Company), Robert Stokes of SRI (in for Gerald Stokes of DOE/PNL), and Michael Walsh (Centre Financial Products). Steven Sylvan of EPA's Energy Star Program, and Rhone Resch of EPA's Natural Gas Outreach Program joined in on the Stakeholder discussions. The Executive Stakeholders which did not attend include: Walter Howes (formerly of Verdigris Capital), Jeff Seabright (USAID), Jonathan Pershing (U.S. State Department), Richard Rhudy (EPRI), Frank Joshua (United Nations Conference on Trade And Development), and Michael Marvin (The Business Council For Sustainable Energy). Four observers were present.

After Stakeholder introductions were complete, Penny Hansen provided an overview of the ETV program. She outlined programmatic goals and strategies, and described factors and events leading up to the establishment of ETV. She described the 12 ETV pilots, outlined potential benefits of participation, identified operational features and stakeholder functions, and presented other information needed to understand EPA's ETV Program.

After Ms. Hansen's presentation, Sushma Masemore presented the results of a limited Market Survey of GHG mitigation technology areas. A list of eight technology areas was identified which may offer near term GHG technology verification opportunities for the Center. The list was developed based on criteria outlined in the presentation (i.e.,

mitigation technology commercial status, profit potential, need for verification, and the presence of existing verification organizations). The rank ordered list included: the natural gas industry, residential electricity use (primarily "miscellaneous" uses), Perfluorocarbons (PFCs) and Sulfurhexafluoride (SF₆), industrial electrical drives, MSW landfills, commercial lighting, industrial processes, and fertilizer use.

Following lunch, Mr. Piccot outlined Center operational plans and issues for the Stakeholders to consider, and illustrated some issues by providing a "walk through the verification process". In his brief presentation, Mr. Piccot proposed a two-tiered Stakeholder organization and suggested tasks each tier could be responsible for. He proposed a process for identifying and selecting specific GHG technology candidates for testing, and addressed the complex issue of "What should we verify?"

Immediately following this presentation, the open discussion session was initiated. The session was fruitful and many specific issues were addressed. At the outset, the topics proposed for discussion included:

- Topic 1: Identification of Strategic Issues Affecting The Center
- Topic 2: Stakeholder Input on the Proposed Initial Verification Plans (both Technology Area focus and operational plans)
- Topic 3: Coordination and Cooperation (how can the Center help others, and others help the Center)

Highlights from the discussions are summarized below. After the session was completed, the group decided to hold annual meetings with regular electronic communication.

The meeting was adjourned at about 4:30.

Topics Addressed in The Open Discussion Session

Greenhouse Gas Trading, Tax Credits, and Other Mitigation Drivers:

Although GHG credits and trading will play a significant role in the future, it will be some time before most technology purchasers feel confident enough to integrate the monetary value of credits into their purchase decisions. Although some limited trading activity is underway, the near term factors driving the application of GHG mitigation technologies will be: a technology's profit potential, existing pollution regulations, safety considerations, process improvements or productivity increases, and other secondary factors. Some firms, such as Enron, are already beginning to consider the market value of carbon in their internal planning, but, for the time horizon we are interested in (next 2 to 4 years), we should probably not include credits or trading benefits in our evaluations and decisions. It is uncertain whether Congress will pass the Administration's GHG tax credit legislation this year, and this uncertainty may continue for some time to come. It is expected that credits may first take hold in Canada and Eastern Europe. This issue should be re-visited in our next meeting, when possible new actions may come in to play (e.g.,

United Nations Conference on Trade And Development effort, Fourth Conference of The Parties).

Determining Annual Emission Reductions:

Several stakeholders were concerned that the estimation and projection activities required to determine annual emission reductions were a "policy" area that the Center should avoid (it could distract from the Centers mission to provide performance data based on measurements, not estimation routines). Others indicated it was a valuable and necessary function that should be presented in reports generated by the Center. It was concluded that annual emission reductions be provided for technologies tested on a case-by-case basis. Specifically, if the technology area stakeholders indicate a need for annual emission reduction estimates and estimation protocols, then they should be included in a separate section in the verification report. However, the Center should not provide these estimates routinely, as a matter of policy.

World Bank Coordination:

The World Bank has started a new program called the World Carbon Investment Fund. The ultimate goal is to set up a high quality trading and credits program. Funding is provided by countries (\$10 million) and private industry (\$5 million each), with a total current budget of \$100 million. We should contact this group to learn more about what the bank is doing, and to coordinate on verification/certification issues.

International vs. National Focus:

The technology area screening conducted by SRI was national (U.S.) in scope, and several members questioned how the technology area list would differ if an international screening evaluation were done. Most members indicated that an international focus should be maintained by the Center, but it was recognized that locating the types of data needed to conduct a credible international screening analysis would be a problem. It was suggested the Center seek developing countries to work with, and that our protocol development efforts ensure consistency with developing country needs.

Natural Gas Industry:

Everyone agreed that the natural gas industry was correctly placed on the top of the priority list. With the significant number of technology opportunities there (both controls and monitoring), the monetary value of the "pollutant" recovered, and the potential for growth under utility de-regulation; this is a good initial technology area for the Center to focus on. It was suggested that equipment testing would require evaluation of performance, reliability, maintenance and other factors to be of use to the Industry. It was also pointed out that the Center should not neglect emissions of carbon dioxide from the natural gas industry (particularly in developing countries), and that the use of electric engines should be considered.

PFCs and SF6:

There was some uncertainty about including PFCs and SF6 as the third technology area. Dina Kruger of EPA-OAR indicated that her office has programs to inventory and voluntarily reduce emissions in the PFC and SF6 areas, and she offered to facilitate

coordination between this group and the Center. After this coordination, the priorities placed on PFCs and SF6 will be re-examined, and appropriate adjustments made to the list as warranted. There was a feeling that PFC recycling in the semiconductor industry was a new and promising target, but that process changes to reduce consumption would be difficult to address.

Fertilizer use, industrial drives, and industrial processes:

Concern was expressed about involving the Center in technologies that fundamentally change processes. Process changes, such as the use of alternative agricultural practices, alternative belt and pulley systems, and other internal process changes are site-specific (even company specific), and can be very complex to verify for broad groups of users. In addition, testing all of the variables needed to fully verify the technology would be difficult to do, and costly to execute. For these reasons, it was suggested that fertilizer use, industrial drives, and industrial processes should be excluded from the list. One observer warned that the Center should not dismiss all process changes, indicating that some "universal technology types" could be verified under the constraints the Center must operate under. Specific examples have not been provided yet.

Landfills:

Placement of this category in the middle of the technology area list was appropriate. It was noted that two audiences exist for landfill technologies, operators and permittees, and that each group likely has different needs and interests. It was indicated that a significant amount of information is already available to the landfill community regarding methane utilization options. To avoid focusing on technologies for which performance data are not needed, the Center must verify only those technologies for which a clear need is expressed by the landfill operators, permittees, and technology developers.

Power Production Sector:

Growth in this sector under deregulation is difficult to predict, but natural gas/combined cycle uses are expected to grow. Biomass utilization may play a significant role if deregulation rules are drafted properly. However, this technology may face problems due to its propensity to produce high levels of fine particles, and it is still in a pre-commercial stage of development. In the short term, fuel switching (coal to gas), re-burning, and biomass/coal mixtures are promising transitional fuels. Verification activities associated with these fuels may be promising if the Center involves itself in this area.

Energy Efficiency Strategies:

Some skepticism was expressed that verification would help spur the sales of energy efficient products in the residential sector. However, it was noted that Circuit City has requested an increase in shipments of Energy Star products, indicating increased consumer interest in efficient appliances. It was pointed out that in some cases, verifying the energy savings associated with more efficient technology can be difficult and complex to accomplish. It was agreed that the Center should examine those technologies for which the vendor can demonstrate a clear need for verification to further promote its products.

Continuous Emission Monitoring:

The use of CEM's to monitor GHG emissions may be a significant future market. With this, the verification of CEM performance will be a large and significant challenge, which the Center is particularly well suited to address.

Other Discussions:

Based on the stakeholder evaluation form distributed at the meeting, all respondents were satisfied with the meeting, and all agreed that the composition of the group was appropriate. Several members expressed an interest in obtaining more technical data on the basis of the technology area screening process. Members agreed to facilitate coordination with the World Bank (Alan Miller), and EPA's methane outreach programs (Dina Kruger).